



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| | | | | |
|--|---------------|----------------------|---------------------|------------------|
| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/598,857 | 09/13/2006 | Kyoko Yamada | 09450/0204421-US0 | 1395 |
| 7278 | 7590 | 03/24/2009 | EXAMINER | |
| DARBY & DARBY P.C. P.O. BOX 770 Church Street Station New York, NY 10008-0770 | | | COX, ALEXIS K | |
| ART UNIT | PAPER NUMBER | | | |
| | | 3744 | | |
| MAIL DATE | DELIVERY MODE | | | |
| 03/24/2009 | PAPER | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|--------------------------------------|--------------------------------------|
| Office Action Summary | Application No. 10/598,857 | Applicant(s) YAMADA ET AL. |
| | Examiner ALEXIS K. COX | Art Unit 3744 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-20 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 13 September 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449)
 Paper No(s)/Mail Date 9/13/2006

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4, 6, 8-10, 12, and 14 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Schultz (US Patent No. 6,625,997) in view of Anderson et al (US Patent No. 2,080,595).

Regarding claim 1, Schultz discloses a cooling package comprising a heat exchanger unit (16, see column 3 line 59) and a cooling fan (14, see column 3 line 58), an upper air intake hole (22, see column 3 line 64), a side air intake hole (20, see column 3 lines 63-64) at a location adjacent to the upper intake hole (see figure 1); and a flow directing plate (24, see column 3 lines 64-65) that is capable of moving between the upper air intake hole and side air intake hole (24A, 24B, see column 4 lines 7-9), Regulating flows of air introduced from the upper air intake hole and side air intake hole. It is noted that Schultz does not explicitly disclose the presence of an upper cover, a side cover, a plurality of intake holes for each air intake, or for the flow regulator to block sound. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide Schultz with upper and side covers, as a single piece cover or a complete lack of a cover or casing would result in the air flow director having no effect. It further falls within the realm of common knowledge as an obvious mechanical expedient to one of ordinary skill in the art at the time of the invention to have a plurality of holes on each intake vent in order to prevent the intake of objects rather than simple air. Anderson explicitly providing a lining of sound absorbing material on existing walls and arranging sound insulating partitions (see page 1, lines 44-52) to reduce noises caused by air passage through a refrigerating compartment. It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to put the

sound insulating liner of Anderson on the existing air flow director of Schultz in order to reduce the disturbance caused by an excessively loud refrigeration system.

Regarding claim 2, the cooling system further comprises a swing shaft means between the upper air intake and side air intake holes (26, see figure 1), and the flow regulating plate is swing ably hinged on the swing shaft.

Regarding claims 3 and 8, the cooling system of Schultz includes hinges for attaching a base edge of the sound insulating/flow regulating plate to an underside of the upper cover (26, see figure 1). It is noted that Schultz in view of Anderson et al do not disclose the presence of a locking means for securing a distal edge of the flow regulating plate to the underside of the upper cover when the plate is in a folded state. However, as the only ways to secure the distal edge of the flow regulating plate are to either constantly ensure the actuating means holds it there or to have a locking mechanism, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a locking mechanism, such as is common on overhead bins or doors, in order to secure position of the flow regulating plate without constant energy expenditure or the use of an excessively heavy and expensive actuating means.

Regarding claims 4, 9, and 10, it is noted that Schultz does not explicitly disclose the presence of a plurality of air flow directing plates. Anderson does explicitly disclose the presence of a plurality of air flow directing and sound dampening plates (41, see page 1 lines 49-52). As the systems of Schultz and Anderson are similar in the function of cooling air, it would have been obvious to one of ordinary skill in the art at the time of

the invention to include the plurality of sound dampening plates of Anderson in the system of Schultz in order to reduce the sound made by the system of Schultz.

Regarding claims 6, 12, and 14, Schultz discloses an actuator for operating the flow regulating plate (28, see column 3 line 67 and column 4 lines 1-2); temperature sensors (68, see column 5 lines 29-30 and 34-39) for detecting temperature data of the cooling package; and a control means (18, see column 5 lines 19-22 and 28-34) for controlling an angle of the flow regulating plate by controlling the actuator based on data from the temperature sensors.

5. Claims 5, 11, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz (US Patent No. 6,625,997) in view of Anderson et al (US Patent No. 2,080,595), further in view of Higgins (US Patent No. 4,418,615).

Regarding claims 5 and 11, it is noted that Schultz in view of Anderson do not explicitly disclose the presence of a side door which can be opened outwards and back, and has the flow regulating plate attached to it. Higgins discloses an access door with a flow regulating plate attached (18, 16, see figure 6). As the access door and flow regulator of Higgins is solving the problem of controlling air flow into a heat transfer location, as is the damper of Schultz in view of Anderson et al, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the positioning of the damper on the access door from Higgins in the system of Schultz in view of Anderson et al in order to permit easier access and maintenance of the damper.

Regarding claims 13 and 15, Schultz discloses an actuator for operating the flow regulating plate (28, see column 3 line 67 and column 4 lines 1-2); temperature sensors

(68, see column 5 lines 29-30 and 34-39) for detecting temperature data of the cooling package; and a control means (18, see column 5 lines 19-22 and 28-34) for controlling an angle of the flow regulating plate by controlling the actuator based on data from the temperature sensors.

6. Claims 7 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz (US Patent No. 6,625,997) in view of Anderson et al (US Patent No. 2,080,595), further in view of Strickland (US Patent No. 1,761,942).

7. Regarding claims 7 and 16-20, it is noted that Schultz in view of Anderson et al does not explicitly disclose the heat exchanger unit to comprise a plurality of devices selected from the group consisting of a heat exchanger of a radiator serving to cool cooling water for an engine, a heat exchanger of an oil cooler serving to cool hydraulic fluid in a hydraulic circuit, a condenser of an air conditioner circuit, and a heat exchanger of an aftercooler serving to cool engine intake air compressed by a supercharger. Strickland discloses the combination of an engine cooling radiator and an oil cooler into a single heat exchanger unit (see page 1 lines 30-36). It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to use the combined oil cooler and engine radiator of Strickland in the system of Schultz in view of Anderson et al in order to minimize the space and complexity of the entire vehicle.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ohga et al (US Patent Application Publication No. 2001/0045099)

discloses a vehicle air conditioning system with multiple dampers controlling input from top and side. Inoue (US Patent Application Publication No. 2006/0080986) discloses a battery cooling device which minimizes the sound heard by a passenger from airflow with the use of a damper. Prince (US Patent No. 2,718,119) discloses inflow from two sources at right angles to each other, with a single damper controlling the balance of the incoming air. Murai et al (US Patent No. 6,478,671) discloses an air mixing unit for a vehicle with influx from two sources, with the sources separated by a single proportioning damper. And Iritani (US Patent No. 6,212,900) discloses an automotive air conditioner with the condenser in an air duct with angled entry of inside and outside air.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXIS K. COX whose telephone number is (571)270-5530. The examiner can normally be reached on Monday through Thursday 8:00a.m. to 5:30p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler or Frantz Jules can be reached on 571-272-4834 or 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AKC/

/Frantz F. Jules/
Supervisory Patent Examiner, Art Unit 3744